



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,660	03/17/2004	Hidayat Husain	4320-540	3285
1059	7590	12/30/2005	EXAMINER	
BERESKIN AND PARR 40 KING STREET WEST BOX 401 TORONTO, ON M5H 3Y2 CANADA			BARRY, CHESTER T	
			ART UNIT	PAPER NUMBER
			1724	
DATE MAILED: 12/30/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/801,660

Applicant(s)

HUSAIN ET AL.

Examiner

Chester T. Barry

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,3,4,7-10 and 15 is/are rejected.  
7) ☒ Claim(s) 2, 5 - 6, 11 - 14, 16 - 45 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/1/05, 7/1/04

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

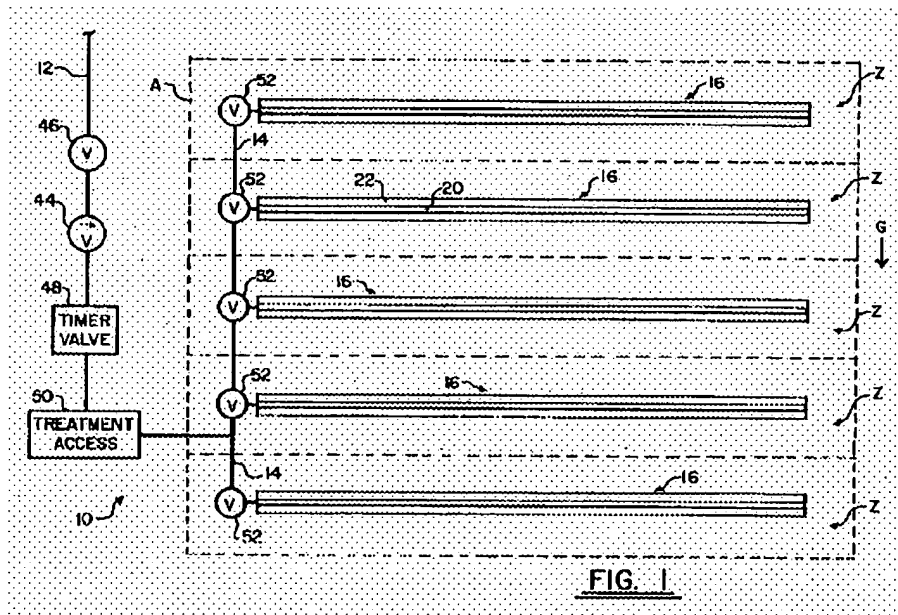
The election without traverse is noted.

Claims 3 – 4, 12, 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 3 – 4, it is unclear what the basis for 100% area is: Is it the cross-sectional area of the hollow fiber? Is it the surface area of the outer surface of the hollow fiber? Is it some other area? This rejection can be overcome by inserting “of the cross-sectional area of the hollow fiber” after each instance of “%” in each such rejected claim, provided applicant has support of the inserted language. Neither of claims 1 and 9 provides antecedent basis for “the group.”<sup>1</sup>

Claims 1, 3-4, 9, 15 are rejected under 35 USC Sec. 102(b) as anticipated by US Patent 5374138 to Byles.

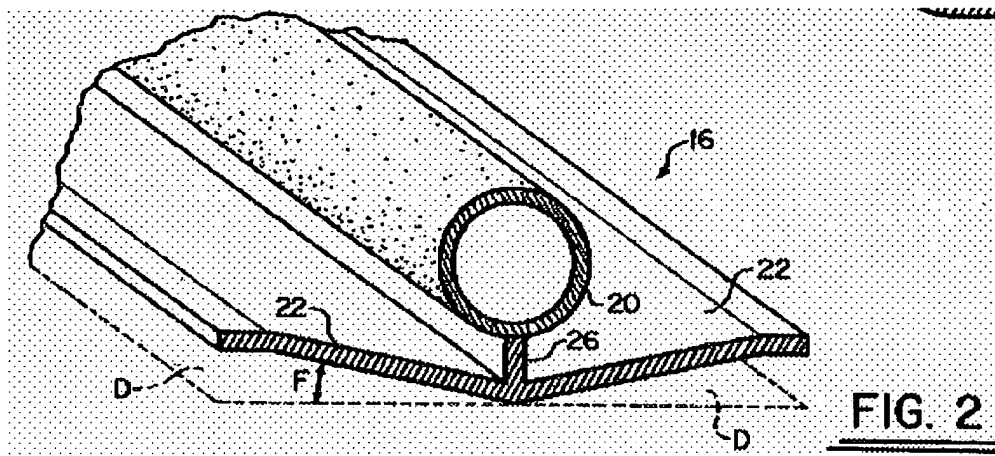
US Patent 5374138 to Byles for “Subsurface irrigation apparatus and method” describes an apparatus comprising a plurality of gas-permeable hollow conduits 20. Each hollow conduit 20 has a lumen and an outer surface, as in Fig. 2, and a port in communication with the cavity of header conduit 14 at valve 52 (col 4 lines 55- 60). The header conduit 14 has a port at which a connecting conduit connects “Treatment Access” to the header conduit 14 (Fig. 1). The claim-recited “hollow fiber” reads on a “hollow conduit” because applicants’ specification does not define what they mean by a

“hollow fiber” with sufficient specificity as to distinguish over any fluid-carrying conduit of substantially longer length than hydraulic diameter. See, for example, paragraph [0048] describing “fine” fibers at having diameters less than 500 microns. The claim-recited hollow fibers are not limited to “fine” fibers. Further, the hollow fibers are described as “non-porous” (with respect to passage of liquids, [0048]), but this property of the described hollow fibers is not limiting of the claim-recited hollow fibers. Per claim 3, Fig. 2 appears to show a hollow area that is at least 10% of the entire cross-sectional area of the conduit. Per claim 4, Fig. 2 appears to show a hollow cross-sectional area that is not more than 50% of the surface area of the outer layer of the conduit.<sup>2</sup> Per claim 9, two groups of two conduits each are shown.



<sup>1</sup> Claim construction note: Claim 13 supports the view that a group may comprise no more than a single thread.

<sup>2</sup> See related sec. 112, 2<sup>nd</sup> paragraph rejection, supra.



Claims 7 – 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byles. It would have been obvious to have selected hollow conduits 20 having any desired length, depending on the size of the lawn to be irrigated. Per claim 8, it would have been obvious to have selected a plurality of parallel conduits each about 1 meter long to irrigate a tree lawn (the lawn area between a sidewalk and curb or street). Per claim 10, any number of groups of conduits having any desired number of conduits per group would have been obvious.

Objection is made to claims 2, 5 – 6, 11 – 14, 16 – 45 for dependence on a rejected base claim, but would be allowable if presented in independent form.

US 20050260739 to Rosen is cited of interest for teaching:

In the fixed-bed reactor, the biofilm attaches to an immobile solid media while the liquid passes through the reactor. . . . In fixed-bed bioreactors, the bioreactors can be classified as hollow fiber membrane or packed bed. In the former, a tubular or a hollow fiber membrane is used as the carrier or medium on which the biofilm can grow. . . . In the hollow fiber membrane bioreactor, oxygen or air is transported

Art Unit: 1724

through the lumens of the hollow fibers by a pressure gradient applied to the membrane interfaces. The biofilm is typically grown in the fluid space between the outer shells of the hollow fiber membrane and the shell wall of the bioreactor.



**CHESTERT. BARRY**  
**PRIMARY EXAMINER**

571-272-1152